

<b>Report to:</b>	Cabinet	<b>Date of Meeting:</b>	11 February 2021
<b>Subject:</b>	Street Lighting Asset Project		
<b>Report of:</b>	Head of Highways and Public Protection	<b>Wards Affected:</b>	(All Wards);
<b>Portfolio:</b>	Locality Services		
<b>Is this a Key Decision:</b>	Yes	<b>Included in Forward Plan:</b>	No (Rule 27 and 46 approvals received)
<b>Exempt / Confidential Report:</b>	No		

### Summary:

To seek approval to proceed with the Street Lighting Asset Project which will reduce energy usage, reduce carbon emissions and clear the backlog of age-expired street lighting assets.

### Recommendation(s):

That Cabinet:

1. approve the Street Lighting Asset Project and delivery of the recommended option as set out in this report;
2. approve the establishment of an in-house project team to manage the project;
3. recommend to Council that a Supplementary Capital Estimate for the scheme of £12.750m, which is to be funded by prudential borrowing on an invest to save basis, be approved;
4. it be noted that the proposal was a Key Decision but had not been included in the Council's Forward Plan of Key Decisions. Consequently, the Leader of the Council and the Chair of the Overview and Scrutiny Committee (Regeneration and Skills) had been consulted under Rule 27 of the Access to Information Procedure Rules of the Constitution, to the decision being made by Cabinet as a matter of urgency on the basis that it was impracticable to defer the decision until the commencement of the next Forward Plan because undertaking the project requires substantial new Capital Investment which should be included within the proposed Capital Programme which is being considered by Cabinet on 11th February 2021, prior to consideration by Council on 4th March 2021; and
5. it be noted that the Leader of the Council and the Chair of the Overview and Scrutiny Committee (Regeneration and Skills) had given his consent under Rule 46 of the Overview and Scrutiny Procedure Rules for this decision to be treated as urgent and not subject to "call in" on the basis that it cannot be reasonably deferred because it

needs to be included within the 2021/22 Budget and Capital Programme to be considered by Council on 4th March 2021

### **Reasons for the Recommendation(s):**

To enable the Council to deliver the benefits set out in the Business Case.

### **Alternative Options Considered and Rejected: (including any Risk Implications)**

The business case has considered several alternatives, including continuing the current approach. Continuing the current approach would result in significantly increased costs, as energy prices are predicted to continue to rise; significant ongoing carbon emissions; and continued liabilities associated with the backlog of age-expired assets. The business case has considered the Strategic, Economic, Commercial, Financial and Management Case for each option, in order to determine the most favourable option.

### **What will it cost and how will it be financed?**

#### **(A) Revenue Costs**

The current budget for street lighting energy costs is £1.80m and these are anticipated to increase by 8% per annum. Such an increase would result in additional costs of £2.09m over and above the current budget in year 10. Therefore, by 2030/31, the annual energy costs are projected to increase to £3.89m which is significantly higher than the current budget provision and this would place significant pressure on Council resources.

The proposals set out within this report for the Street Lighting Asset Project involve the installation of energy efficient light bulbs and capital investment in lighting columns. These are anticipated to result in savings of £1.70m in total over the first 6 years of the project compared to the current budget. Savings compared to the budget in the first three financial years are estimated to be £159k, £278k and £455k in years 1 to 3 respectively. Estimated savings over the project life cycle of 24 years, after taking in account PWLB loan repayments, are £68m compared to the estimated cost of maintaining the status quo. Therefore, the project would result in a reduced call on Council resources in future years.

The business case has assumed a level of inflation for energy costs at 8% per year. However, predicting inflation in the future is uncertain, therefore the business case has considered changes in inflation rates for energy costs. If energy price inflation were 10% on average per annum, the saving over the project life cycle would increase to £90m. If energy price increases were lower at 7% on average per annum, the estimated total project savings compared to the status quo over the project life cycle would still be significant at £59m.

#### **(B) Capital Costs**

The Business Case demonstrates the project is affordable over the life of the project with all capital repayment costs built in.

The preferred option, option 2, would require additional capital expenditure of £12.750m funded by prudential borrowing. It is recommended that the business case should be considered over 20 years, rather than the standard 40 years for infrastructure assets, as a more prudent estimate of the useful economic life of the equipment.

The Council's MRP policy which outlines the rules regarding prudential borrowing allows the Executive Director for Corporate Resources and Customer Services, in limited circumstances, to use alternative lives for assets (capital schemes) that have characteristics that mean using the standard life would not be considered appropriate.

**Implications of the Proposals:**

<p><b>Resource Implications (Financial, IT, Staffing and Assets):</b>          The cost of borrowing will be met from the existing street lighting revenue budget. The current Street Lighting Team will be supplemented to form a project delivery team for the duration of the project.</p>
<p><b>Legal Implications:</b>          Under Section 41 of the Highways Act 1980 Sefton Council has a statutory duty to maintain the public highway.</p>
<p><b>Equality Implications:</b>          There are no equality implications.</p>

**Contribution to the Council's Core Purpose:**

<p>Protect the most vulnerable:          Street Lighting contributes to the ability for residents to use the highway safely and a move to LED light, which is whiter, will improve this.</p>
<p>Facilitate confident and resilient communities:          Street Lighting contributes to resident's perceived security allowing them to confidently use the highway.</p>
<p>Commission, broker and provide core services:          The investment will minimise the impact of future energy cost rises, ensuring that as much of the available resource as possible is directed to maintaining and improving the highway asset and securing the best standards possible within the resources available.</p>
<p>Place – leadership and influencer:          We will be demonstrating the Council's commitment to reducing carbon emissions, as well as modernising and improving the highway asset across the borough.</p>
<p>Drivers of change and reform:          This will deliver wholesale change to the Council's street lighting assets and energy usage, and a significant reduction in the Council's carbon usage.</p>
<p>Facilitate sustainable economic prosperity:          The highway facilitates economic activity, the lighting of the highway contributes to its safety, whiter light will enhance the street scene.</p>
<p>Greater income for social investment:          Minimising expenditure on energy costs ensures more funding is available for services vital to our communities</p>
<p>Cleaner Greener          Street Lighting accounts for 26% of the Council's total carbon emissions and this project is planned to reduce the Council's total carbon emissions by 16%.</p>

## **What consultations have taken place on the proposals and when?**

### **(A) Internal Consultations**

The Executive Director Corporate Resources & Customer Services (FD 6295/21) and the Chief Legal & Democratic Officer (LD4496/21) have been consulted and any comments have been incorporated into the report.

### **(B) External Consultations**

No external Consultation has taken place.

### **Implementation Date for the Decision**

Immediately following the meeting, in order to enable inclusion within the 2021/22 Budget and Capital Programme to be considered by Council on 4th March 2021.

The Chair of the Overview and Scrutiny Committee (Regeneration and Skills) has given approval under Rule 46 of the Overview and Scrutiny Procedure Rules for the 'call-in' period to be waived in respect of the executive decision.

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### **Appendices:**

The following appendices are attached to this report:

Street Lighting Asset Business Case

### **Background Papers:**

There are no background papers available for inspection.

## **Introduction**

1. Sefton Council made a Climate Emergency Declaration in July 2019 which has led to the development of Sefton's Climate Change Emergency Strategy and associated Action Plan. These seek to reduce Sefton Council's carbon emissions to net zero by 2030.
2. The Council also wants to reduce energy costs as part of good financial management. The energy used by Street Lighting accounts for 26% of the Council's total carbon footprint (based on 2019/20 figures) and these energy costs are increasing year-on-year at a rate above inflation incurring a significant cost to the Council.
3. The Urban Traffic Control (UTC) Asset also requires upgrading to LED and will reduce energy consumption.
4. In relation to climate change, the energy used by these assets accounts for a significant portion (26%) of the carbon emissions that the Council wants to reduce.
5. This report and attached Business Case seeks approval to invest £12.750m (prudential borrowing) in the Street Lighting Asset Project to continue to improve the portfolio through the installation of LED technology and replacement of life expired assets. The programme (including repayment of the loan) will generate significant operational cost savings compared to the forecast expenditure without intervention, approximately £68m over the period of the business case (Net Present Value of saving is £26m).

## **Background**

6. The Council has been upgrading the Street Lighting stock to LED since late 2014 as the current stock reaches the end of its life and requires renewal. This was approved by Cabinet Member on 24th September 2014. To date this has allowed the Council to upgrade 6,000 lights, 16% of the stock. At the current rate it would take the Council 25 years to upgrade all of its stock.
7. A previous review of this service area (2012) undertook a survey of residents' views on street lighting (520 responses) which indicated strong support (83%) for moving towards LED lights.
8. This upgrading has the advantage of reducing energy costs and associated carbon emissions, reducing maintenance and improving the quality of the street lighting. The average saving on energy is 70% and the average saving on maintenance is 40%. These savings are based on experience from previous conversion to LED and on technical specifications for LED units.
9. The current budget for Street Lighting is £2.79m of which £1.8m is energy costs. The non-energy costs include staff, maintenance, bulb replacement, structural and electrical testing. The energy used by Street Lighting emits 2,361 tCO<sub>2</sub>/yr based on 2019/20 figures accounting for over a quarter (26%) of the Council's carbon emissions. This is a significant contribution to the Council's carbon emissions and any reduction would support the Council's Climate Change Emergency Declaration and Action Plan.

10. The energy cost for the operation of the Council's Highway Street Lighting is increasing year-on-year at a rate above inflation and is expected to continue to do so in the coming years. This means that more money is required each year to fund this expenditure, to the detriment of other possible areas of expenditure (e.g. highway maintenance). It is estimated that, without intervention, the street lighting energy bill will double by 2030.
11. The Street Lighting Asset Project therefore aims to reduce the energy and maintenance costs associated with the operation of the Council's street lighting asset. This would be achieved by upgrading and making future-fit the existing street lighting asset, mainly through the replacement of existing lantern units with energy efficient LED equipment, along with replacement of street lighting assets that are life-expired. This will also significantly reduce the Council's carbon emissions, by almost a sixth (16%) based on 2019/20 figures.
12. This report summarises the full Business Case (attached) which has been developed using the Five Case Business Model methodology, considering the Strategic, Economic, Commercial, Financial and Management Case for each option, to assess strategic fit, value for money, viability, affordability and achievability in order to determine the most favourable option. A summary of this work is presented below.
13. The Business Case focused on the following short-list of options:

Option 1	Status Quo, Do Nothing or Do Minimum
Option 2	The Reference Project – Upgrading of all street lighting assets to LED using current technology which includes replacement of life expired assets such as lighting columns
Option 3	The More Ambitious – Upgrading of all street lighting assets to LED using innovative technology (solar units) which includes replacement of life expired assets such as lighting columns
Option 4	The Less Ambitious – Upgrading of street lighting assets that use the most energy which does not include the replacement of life expired assets such as lighting columns

14. A summary of the value for money assessment of the above options is shown in the 2 tables below:

	Capital Cost	Revenue Costs over 24 years (undiscounted)	Net Present Value	Estimated Annual kWh Savings	tCO <sub>2</sub> e pa
Option 1	-	160,614,561			
Option 2	12,750,245	92,845,509	<b>25,913,564</b>	7,161,519	1,655
Option 3	N/A	N/A	N/A	N/A	N/A
Option 4	7,395,814	101,155,525	<b>23,922,487</b>	6,128,358	1,415

N.B. see paragraph 16 for explanation of N/A comment for Option 3

Evaluation Results	Option 1	Option 2	Option 3	Option 4
Economic appraisals	3 <sup>rd</sup>	1 <sup>st</sup>	NA	2 <sup>nd</sup>
Benefits appraisal	3 <sup>rd</sup>	1 <sup>st</sup>	NA	2 <sup>nd</sup>
Risk appraisal	3 <sup>rd</sup>	1 <sup>st</sup>	NA	2 <sup>nd</sup>
Overall Ranking	3 <sup>rd</sup>	1 <sup>st</sup>	NA	2 <sup>nd</sup>

N.B. see paragraph 16 for explanation of N/A comment for Option 3

15. The outcome of this work is the recommendation to proceed with Option 2 as the most favourable option, upgrading all street lighting assets by replacing all non-LED lights with LED units and replacing assets, such as lighting columns, that are life-expired. This option includes illuminated signs and bollards.
16. Innovative technology, in the form of solar powered equipment, is currently being prepared for testing and full evaluation, so it has not been possible to complete the evaluation of Option 3. However, commencing the project based on existing technology does not prevent subsequent installation of solar technology, if it demonstrates further added value and benefits, and does enable earlier realisation of benefits, including financial and energy savings.
17. The project will generally involve replacement of existing lanterns with new LED lanterns making use of existing columns. This process will be subject to checks to ensure that suitable new lantern units are specified and that if required lamp column locations will be amended or supplemented. The LED lanterns are widely used by other Local Authorities and there are established standards for the lantern units and their installation. This includes guidance that we comply with such as ILP (Institution of Lighting Professionals) Guidance Note 08/18 - Bats and artificial lighting in the UK; we will comply with all relevant guidance including avoiding impacts on wildlife.
18. Members should note that there is also a complementary project planned, to upgrade the Urban Traffic Control (UTC) Asset (e.g. traffic lights and other signals) to LED. This is to be funded by Liverpool City Region Combined Authority and will have no impact on the Council's budget, but it will provide further energy savings and contribution to the Council's carbon reduction target, a further 1% reduction based on 2019/20 figures.

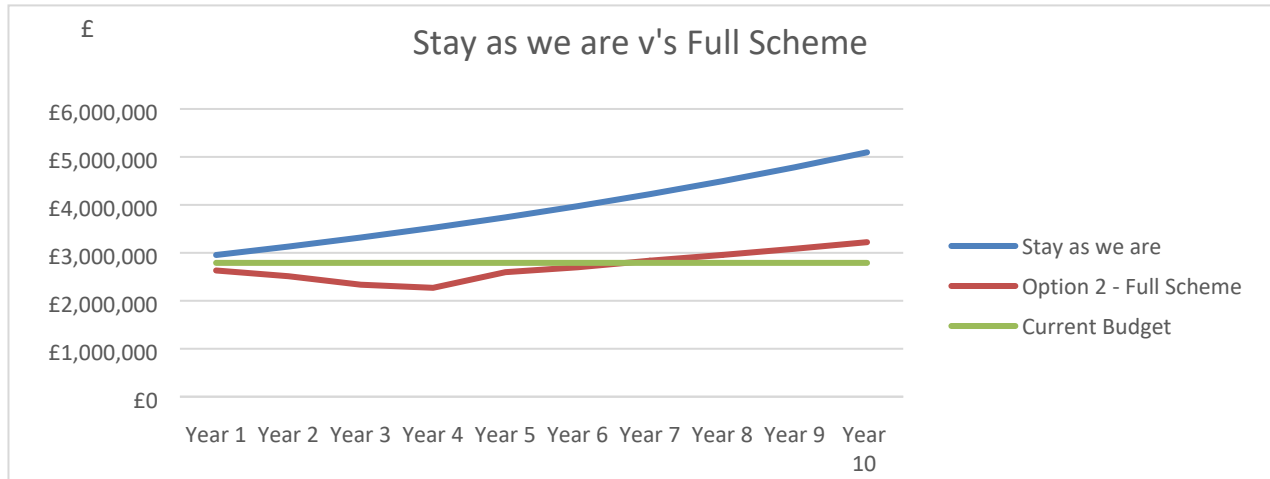
## **Benefits**

19. There are three main benefits arising from the project:
- carbon reduction; 16% reduction of the Council's carbon emissions
  - energy cost management – a reduction of 70% or £1.26m/yr based on current costs;
  - maintenance costs – a reduction of 40% or £395k/yr based on current costs

There is a further, more qualitative benefit, from the improvement to the street environment provided by the whiter light from LED lanterns. The Business Case assessed the level of benefit delivered by each option, along with different funding options, and the programme and benefits delivery profile.

## Costs and Affordability

20. The model used in the Business Case assumes an average energy price increase of 8% and other inflationary increases of 2% each year. It also assumes a policy change for prudential borrowing from 40 years to 20 years. The chart below shows the impact on the street lighting revenue budget comparing Option 1 (status quo) and Option 2 (proposed option) with the current budget included for reference:



21. The recommended option would see £12.750m additional investment in street lighting, on top of the £0.300m per annum that is currently invested. This would bring total investment over the 4 years (2021/22 to 2024/25) to £13.950m. The breakdown of this is as follows:

- 2021/22 - £3.272m
- 2022/23 - £3.742m
- 2023/24 - £3.605m
- 2024/25 - £2.130m

22. If investment starts in 2021/22, the revenue costs are estimated at £2.63m, including the costs of funding the above capital, however this will depend on the timing of new lower energy equipment coming online. The current budget is £2.791m and would therefore result in an in-year saving of £0.158m. Repayment costs on the full amount of the PWLB Loan will be £783k/yr for 20 years (starting at £201k in year 2) and these are reflected in the above diagram. The current budget for street lighting is set out below.

Current Street Lighting Revenue Budget	
Energy Costs	£1,802,000
Street Lighting Planned - Electrical Testing	£105,000
Street Lighting Demand - Routine	£651,250
Street Lighting Planned - Renewals & Improvements	£20,000
Street Lighting Planned - Structural Testing	£25,000
Other Operating Costs	£187,450
<b>TOTAL EXPENDITURE</b>	<b>£2,790,700</b>

23. Over the course of the 4-year project, savings increase year-on-year to an approximate saving of £0.520m against the current base budget in 2024/25. This



contrasts with the significant budget growth that will be required over that period without intervention to reduce energy usage. After this point the annual saving against this base budget decreases due to the impact of electricity cost increases.

24. A summary of the financial appraisal for the first six years is shown in the table below:

	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Total
Preferred option	£	£	£	£	£	£	£	£
Capital PWLB		3,271,750	3,742,035	3,605,580	2,130,880			12,750,245
Capital Highways Maintenance		300,000	300,000	300,000	300,000			1,200,000
<b>Total</b>		<b>3,571,750</b>	<b>4,042,035</b>	<b>3,905,580</b>	<b>2,430,880</b>			<b>13,950,245</b>
Revenue Cost	2,790,700	2,631,787	2,512,381	2,335,349	2,270,338	2,596,612	2,698,860	
Existing Revenue Budget	2,790,700	2,790,700	2,790,700	2,790,700	2,790,700	2,790,700	2,790,700	
<b>Saving</b>		<b>158,913</b>	<b>278,319</b>	<b>455,351</b>	<b>520,362</b>	<b>194,088</b>	<b>91,840</b>	

25. If the savings generated over the first 6 years of the project are reserved for use in subsequent years, the need for revenue growth could be deferred a further six years.

26. The first table below sets out the revenue budget for 2025/26 including repayments for the PWLB and allowing for inflation up to this year. The second table shows the revenue budget for 2025/26 for option 1 (business as usual).

<b>Revised Street Lighting Revenue Budget 2025/26 Option 2</b>	
Energy Costs	£1,099,527
Street Lighting Planned - Electrical Testing	£115,928
Street Lighting Demand - Routine	£341,737
Street Lighting Planned - Renewals & Improvements	£22,082
Street Lighting Planned - Structural Testing	£27,602
Other Operating Costs	£206,960
PWLB Repayments	£782,776
<b>TOTAL EXPENDITURE</b>	<b>£2,596,612</b>

<b>Revenue Budget 2025/26 Option 1 Business as usual</b>	
Energy Costs	£2,647,729
Street Lighting Planned - Electrical Testing	£115,928
Street Lighting Demand - Routine	£719,033
Street Lighting Planned - Renewals & Improvements	£22,082
Street Lighting Planned - Structural Testing	£27,602
Other Operating Costs	£206,960
<b>TOTAL EXPENDITURE</b>	<b>£3,739,334</b>

27. The Business Case demonstrates the project is affordable over the life of the project with all capital repayment costs built in. Not carrying out this project will result in further budget issues in the coming year as energy costs increase.
28. Due to the complexity and duration of the project contingences have been included in the cost estimates but these will only be used if required and their use will be overseen through the robust project governance that will be established. Inclusion of these contingencies in the business case ensures that we are assessing the worst-case costs against the benefits. The key risk that it has not been possible to mitigate relates to the supply chain and any unforeseen delays associated with Brexit. For this reason, a contingency for delays has been allowed for.
29. Within the Business Case the sensitivity of the option and the overall case has been tested in relation to the assumption of 8% annual increase in energy costs. The preferred option in relation to economic appraisal changes from option 2 to option 4 when the annual increase of energy costs drops below 3%. In relation to benefits and risk the preferred option remains as option 2 in this sensitivity testing.
30. In relation to the overall Business Case even when the annual increase in energy costs drops to 3% both option 2 and option 4 demonstrate value for money compared with the option 1 (business as usual).

### **Delivery**

31. The Council's existing contract allows for these works to be procured through the current Term Maintenance Contractor. They have been approached and have confirmed their capacity and willingness to undertake this work. If any capacity issues are encountered, a further procurement could be undertaken for the later stages of the project without delaying project commencement.
32. Given that this will be a four-year project, having considered the options, it is recommended that an in-house project team be established by enhancing the current in-house Street Lighting Team. The additional staff costs are included in the cost estimates and would be for the duration of the project. Subject to approval and inclusion in the budget it is anticipated that an order could be issued to the Contractor in April, enabling materials to be ordered with works likely to start July/August 2021.